

# CURRICULUM VITAE

## Professor Mats Viberg

- Born December 21, 1961 in Linköping, Sweden.
- Family status: Married to Ann-Sofie Viberg, born Severin. Children: Oskar, born 1993 and Fredrik, born 1996.

### Educations

1. Master of Science (Civilingenjör) in Applied Mathematics, Linköping University, Linköping, Sweden, 1985.
2. Licentiate of Engineering (Teknologie Licentiat) in Electrical Engineering, Linköping University, Linköping, Sweden, 1987.
3. Doctor of Philosophy (Teknologie Doktor) in Electrical Engineering, Linköping University, Linköping, Sweden, 1989.
4. Docent in Electrical Engineering, Linköping University, Linköping, Sweden, 1992.

### Awards and Stipends

1. Stipend from the “Ericsson funding for supporting Electrical Engineering”, 1988 and 1992.
2. J. William Fulbright Scholarship, 1992.
3. IEEE Signal Processing Society 1993 Paper Award, Statistical Signal and Array Processing Area. See reference [3].
4. IEEE Signal Processing Society 1999 Best Paper Award. See reference [24].
5. *Excellent research environment award* from the Swedish Research Council, 2002.
6. Fellow of the IEEE, 2003.
7. *EURASIP European Group Technical Achievement Award*, ”for contributions to statistical signal processing with applications to radar, communications, and automotive processing”, 2007.
8. Elected into the Royal Swedish Academy of Sciences (KVA) 2009.
9. Co-author for *2nd Best Student Paper Award*, Asilomar Conf. Sig., Syst. and Comput., 2009, see reference [173].

### Academic Appointments

1. Undergraduate Assistant. Department of Electrical Engineering, Linköping University, Sweden. July 1984 until June 1985.
2. Teaching Assistant. Department of Electrical Engineering, Linköping University. July 1985 until Oct. 1989.
3. Visiting Scholar at Information Systems Laboratory, Stanford University, Stanford, CA, USA. October 1988 until April 1989.

4. Assistant Professor (Forskarassistent). Department of Electrical Engineering, Linköping University. Nov. 1989 until Aug. 1992.
5. Visiting Professor at the Department of Electrical and Computer Engineering, Brigham Young University, UT and at Information Systems Laboratory, Stanford University, August 1992 until August 1993.
6. Professor of Signal Processing. Department of Signals and Systems, Chalmers University of Technology, Göteborg, Sweden, Sept. 1993 until Aug. 2018.
7. Head of the Department of Applied Electronics, Chalmers University of Technology, Göteborg, Sweden. July 1995 - Dec. 1997.
8. Head of the Department of Signals and Systems, Chalmers University of Technology, Göteborg, Sweden. Jan. 1999 - Dec. 2004.
9. First Vice President (Prorektor), Chalmers University of Technology, Göteborg, Sweden. May 2011 - Dec. 2017. Vice President for Research Jan. 2018 - Apr. 2018.
10. Head of the Department of Architecture and Civil Engineering, Chalmers University of Technology, Göteborg, Sweden, May 2017 - Aug. 2018.
11. Vice Chancellor of Blekinge Institute of Technology (BTH), Karlskrona, Sweden, since Sept. 2018.

## Professional Activities

- Main supervisor for 26 students to the Ph.D. degree.
- Research in the area of statistical signal processing and its applications, including antenna array signal processing, wireless communication systems, radar systems and automotive signal processing.
- Reviewer for several leading scientific journals as well as Swedish and international research proposals. NSF panelist 2001, 2003, 2005, 2006 and 2011; evaluation group member for The Swedish Research council on Engineering Science (TFR) 1995-1997.
- Chair of the Swedish Research Council's (VR) Evaluation Group on Signals and Systems (2001-03), vice-chair (2004-05). Member of the VR Advisory Board for Science and Engineering (2007-2009)
- Associate Editor of the IEEE Transactions on Signal Processing (2004-2005).
- Regular member of technical committees in international conferences, (co-)organizer of 5 special sessions. Technical Chair for the IEEE SPS Workshop on Statistical Signal Processing 2005 and Technical Co-Chair for CAMSAP 2007. General Co-Chair for EUSIPCO 2010.
- IEEE Signal Processing Society Activities: Member of the Technical Committee on Statistical Signal and Array Processing (1994-98); Technical Committee on Signal Processing Theory and Methods (Member (1997, 2009-2011), Vice Chair (1998-2000), Chair (2001-2003)); Member of the Conference Board (1999-2001), the Publication Board (1999-2001) and the Awards Board (2005-2007); Technical Committee on Sensor Array and Multichannel (Member 2006-2008, Vice-Chair 2009-2010, Chair 2011-2012), Member of the Board of Governors (2010-2012).
- EURASIP activities: Guest editor for the Signal Processing (EURASIP) special issues on Subspace Methods (1995-96) and Statistical Signal and Array Processing (2009). Member of the Awards Subcommittee for JASP (2004-2006).
- Member of the Editorial Board for the IEEE Journal on Selected Topics in Signal Processing (2006-2010)
- Director for the Strategic Research Center CHARMANT (Chalmers Research Center on Microwave Antenna Systems), 2006-2011.

- Invited plenary-level speaker at 7 international conferences.
- Author of 59 Published Journal Papers, 12 Book Chapters and 145+ Conference Papers. Total number of citations: 11900, Hirsch index: 41 (source: Google Scholar, Sept. 2018).

## References

### Journal Papers

- [1] Mats Viberg, “Sensor Array Processing Using Gated Signals”, *IEEE Trans. on ASSP*, **ASSP-37**(3):447–450, March 1989.
- [2] S. Andersson, M. Millnert, M. Viberg, and B. Wahlberg, An adaptive array for mobile communication systems, *IEEE Trans. on Veh. Tec.*, **40**(1):230–236, 1991.
- [3] M. Viberg and B. Ottersten, “Sensor Array Processing Based on Subspace Fitting”, *IEEE Trans. SP*, **SP-39**(5):1110–1121, May 1991.
- [4] B. Ottersten, M. Viberg, and T. Kailath, “Performance Analysis of the Total Least Squares ESPRIT Algorithm”, *IEEE Trans. on SP*, **SP-39**:1122–1135, May 1991.
- [5] M. Viberg, B. Ottersten, and T. Kailath, “Subspace Based Detection for Linear Structural Relations”, *J. of Combinatorics, Information, & Systems Sciences*, **16**(2-3):170–189, 1991.
- [6] M. Viberg, B. Ottersten, and T. Kailath, “Detection and Estimation in Sensor Arrays Using Weighted Subspace Fitting”, *IEEE Trans. SP*, **SP-39**(11):2436–2449, Nov. 1991.
- [7] B. Ottersten, M. Viberg, and T. Kailath, “Analysis of Subspace Fitting and ML Techniques for Parameter Estimation from Sensor Array Data”, *IEEE Trans. on SP*, **SP-40**:590–600, March 1992.
- [8] Mats Viberg, Sensitivity of parametric direction finding to colored noise fields and undermodeling, *Signal Processing*, **34**(2):207–222, Nov. 1993.
- [9] A.L. Swindlehurst and M. Viberg, “Subspace Fitting with Diversely Polarized Antenna Arrays”, *IEEE Trans. on AP*, **41**:1687–1694, Dec. 1993.
- [10] P. Stoica, M. Viberg, and B. Ottersten, “Instrumental Variable Approach to Array Processing in Spatially Correlated Noise Fields”, *IEEE Trans. SP*, **SP-42**:121–133, Jan. 1994.
- [11] S. Talwar, M. Viberg, and A. Paulraj, Estimating multiple co-channel digital signals using an antenna array, *IEEE SP Letters*, **1**:29–31, Feb. 1994.
- [12] M. Viberg and A.L. Swindlehurst, “Analysis of the Combined Effects of Finite Samples and Model Errors on Array Processing Performance”, *IEEE Trans. SP*, **42**:3073–3083, Nov. 1994.
- [13] M. Viberg and A.L. Swindlehurst, “A Bayesian Approach to Auto-Calibration for Parametric Array Signal Processing”, *IEEE Trans. SP*, **42**, Dec. 1994.
- [14] M. Viberg, B. Ottersten, and A. Nehorai, “Performance Analysis of Direction Finding with Large Arrays and Finite Data”, *IEEE Trans. SP*, **43**(2):469–477, Feb. 1995.
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- [16] P. Stoica and M. Viberg, “Weighted LS and TLS Approaches Yield Asymptotically Equivalent Results”, *Signal Processing*, **45**(2), Aug. 1995.
- [17] J. Li, B. Halder, P. Stoica, and M. Viberg, “Computationally Efficient Angle Estimation for Signals with Known Waveforms”, *IEEE Trans. on SP*, **43**:2154–2163, Sept. 1995.

- [18] M. Viberg, “On Subspace-Based Methods for the Identification of Linear Time-Invariant Systems”, *Automatica*, **31**(12):1835–1851, Dec. 1995.
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- [20] P. Stoica, B. Ottersten, M. Viberg, and R. Moses, “Maximum Likelihood Array Processing for Stochastic Coherent Sources”, *IEEE Trans. SP*, **SP-44**:96–105, Jan. 1996.
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### Book Contributions

- [60] M. Viberg and B. Ottersten, “Efficient Estimation of Multiple Parameters from Sensor Array Data”, In E. F. Deprettere and A.-J. van der Veen, editors, *Proceedings of the International Workshop on Algorithms and Parallel VLSI Architectures, 10-16 June 1990, Pont-à-Mousson, France*, pages 193–202. Elsevier Science Publishers B.V., 1991.
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### Theses

- [72] M. Viberg, An introductory study of an adaptive array problem, Master’s thesis, Aug. 1985.
- [73] M. Viberg, “On the adaptive array problem”, Licentiate thesis, April 1987.
- [74] M. Viberg, *Subspace Fitting Concepts in Sensor Array Processing*, PhD thesis, Linköping University, Linköping, Sweden, Oct. 1989.

### Conference Papers

- [75] M. Viberg, “Multipath propagation and the optimal SNR for adaptive arrays”, In *Proc. ICASSP 88 Conf*, pages 2761–2764, New York, April 1988.
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